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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,403	01/11/2002	Kazuhiko Takaishi	1990.66098	8904

7590 09/22/2004

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EXAMINER

FIGUEROA, NATALIA

ART UNIT PAPER NUMBER

2651

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,403

Applicant(s)

TAKAISHI ET AL.

Examiner

Natalia Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 11-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1² and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Takaishi et al (USPN 6,646,824), hereinafter Takaishi.

Regarding claim 1, Takaishi discloses a position demodulating method of a disk apparatus, for calculating a decoded position after position signals of a disk read by a head were demodulated (or servo burst position information figs. 5-6), comprising a first step wherein after position information of different phases are demodulated from said position signals (or servo burst position information figs. 4-6 and col. 8, lines 22-31), they are multiplied by a position sensitivity gain, respectively and first position information PosN and second position information PosQ are calculated (fig. 7, elements 40 and 43); a second step wherein said first position information PosN and said second position information PosQ are compared and third position information Pos1 and fourth position information Pos2 in which influences of an error of the position sensitivity gain appear oppositely are calculated (fig. 7, elements 40, 43 and 54); and a third step wherein a first weight gain G1 and a second weight gain G2 are obtained from said third position information Pos1 and said decoded position is calculated by including an addition value of a multiplication value obtained by multiplying said third position information by said

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first weight gain and a multiplication value obtained by multiplying said fourth position information by said second weight gain (fig. 7 and disclosure thereof and col. 8, line 44-col. 9, line 45).

Regarding claim 2, Takaishi further discloses that with respect to said first weight gain, said second weight gain is set to a value obtained by subtracting the first weight gain from 1 (fig. 7, col. 8, lines 53-61).

Regarding claims 9-10, apparatus claims 9-10 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1-2. Therefore apparatus claims 9-10 correspond to method claims 1-2, and are rejected for the same reasons of anticipation as used above.

Allowable Subject Matter

3. Claims 3-8 and 11-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3-4 and 11-12, the prior art of record, and in particular Takaishi (USPN 6,646,824) fails to teach or suggest that said first weight gain is a segment primary function which changes like a triangle for a detected position so as to be equal to 1 at a track center and 0 at track boundary positions on both sides.

Regarding claims 5-7 and 13-15, the prior art of record, and in particular Takaishi (USPN 6,646,824) fails to teach or suggest that said first weight gain is a segment primary function

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which changes like a trapezoid for a detected position which is set to 1 at a position in front of a switching position of said position information PosN and PosQ on both sides from a track center and which is restricted to a lower limit value 0.5 at a position near said switching position.

Regarding claims 8 and 16, the prior art of record, and in particular Takaishi (USPN 6,646,824) fails to teach or suggest that in said second step, a first speed correcting position and a second speed correcting position which are proportional to a moving speed of the head are obtained every said third position information Pos1 and said fourth position information Pos2 added.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to further show the state of the art with respect to position demodulation.

- a) Takaishi (JP 08-195044): Discloses a method for demodulating.
- b) Onoyama et al (JP 06-243608): Discloses a head positioning device.
- c) Takahashi (JP 2000-030686): Discloses a positional sensitivity setting method.
- d) Itou et al (USPN 5,907,449): Discloses a position sensitivity adjusting method.
- e) Sasamoto et al (USPN 5,541,785): Discloses a magnetic disk with improved positioning control of the head.
- f) Ishii (High Density ...): Discloses servo signal detection and position signal detection.
- g) Shariatdoust (An Integrating Servo ...): Discloses a servo demodulator for disks.
- h) IBM TDB (Automatic Gain Control ...): Discloses gain control for position error

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signal in a disk.

- i) IBM TDB (Off Track Gain ...): Discloses gain calibration of position error signal.
- j) Takaishi (USPN 6,118,615): Discloses head positioning method.
- k) Takaishi (USPN 6,166,871): Discloses compensation method for misread track number.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (703) 305-1260.

The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER